ERIC Document Resume	See Instruction Sheet	DATE OF RESUME	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.
ED002276	N.A.	N.A.

4. AUTHOR(S):
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5. TITLE OF DOCUMENT ABSTRACTED:
One Lump - Inductively: The Relevance of the Inductive Approach to Disadvantaged Learning

6. PUBLICATION TITLE:
N.A.

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
ORG. Urban Teacher Preparation
ST. Program, Syracuse
CITY, STATE University, Syracuse, N.Y.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
Syracuse University
Syracuse, New York

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	N.A.	3

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TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR
Report

16. INDEXING TERMS (6-12)

urban teacher	disadvantaged children	culturally deprived	
role playing	inductive approach	deductive approach	

17. ABSTRACT (MAX. 250 WORDS)

The learning style of disadvantaged children is the inductive, rather than the deductive, discovery method of learning. By starting with a particular concrete item within the child's frame of reference, it becomes easier for him to make generalizations. Through skillful questioning, the teacher can help the child search out and understand an abstract concept. As the teacher pursues a concept in questioning, he can judge responses, explain sources of difficulty, and isolate gaps in the experiential background of the learners. The inductive approach to learning is best for the disadvantaged child because his mental style is more concrete and problem-centered than abstract-centered, more physical and visual than aural, and more game and action-centered than test-centered.

One example of the inductive approach is role playing in which a child becomes physically and mentally involved in a situation. This teaching method draws abstract generalizations from the child's specific frame of reference, from his action, and from his individual style of expression.

Difficulties of the inductive approach lie with the problems of structuring and anticipating responses, and the length of time it takes to make a specific point. Advantages of the method are that it can teach disadvantaged children to think and learn effectively.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OR PROJECT	U.S. Department of Health, Education, and Welfare Office of Education

ERIC Form 1

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ED002276

Syracuse University

URBAN TEACHER PREPARATION
PROGRAM
Ford Foundation

Syracuse Public Schools

"ONE LUMP--INDUCTIVELY"
The Relevance of The Inductive Approach to Disadvantaged Learning

by
Dr. Mario D. Fantini
and
Gerald Weinstein

Twenty-four elementary school children are gathered around a beaker of water on the bottom of which is a square object whose sharp edges rescind as the object gradually disappears. Twenty-four different ideas and answers could follow the question: "What is it? -- or 24 blank stares could confront the teacher. In either case, would not imagination creativity, analysis, thought, active learning, in short, the stream of motivation inherent in the process of attempting to organize the unknown, be severed if the teacher were to say immediately: "It's a lump of sugar that we are going to use in a study of water soluble materils"?[1]

Certainly the teacher might have saved valuable class time had she said this. But, how much meaning would such an abstract concept have had for these children? How much retention would they have, having been cheated of the powerful experience of discovery on their own, of investigating for new and alternative ways of looking at phenomena. Would not a simple prodding statement -- "Look, there are bubbles! What have you seen that gives off bubbles in water?" -- have guided the way to, rather than purveyed, knowledge?

It may seem obvious and basic to you, but a more striking situation could hardly be devised to illustrate the inductive approach toward learning. And it is especially apropos to the culturally disadvantaged child.

Frank Riessman, author of The Culturally Deprived Child, states that learning styles of disadvantaged children are inductive---The "discovery method of learning"---rather than deductive. By starting with a particular concrete item within the child's own frame of reference, it becomes easier for him to make generalizations. Through skillful questioning, the teacher can help the child search out and understand an abstract concept.

In taking this step farther, we would like to explore the rationale for using the inductive approach with deprived children. The deductive approach places a tremendous burden on the teacher in what she has to understand of her pupils. With the inductive approach, fewer assumptions as to the child's experiential background are made. And the experiential background of the culturally deprived child is considerably different than what his typically middle class teacher tends to think. Thus, as the teacher pursues a point in questioning, she can judge response, pick up points of difficulty, and isolate gaps in background continually as the lesson develops. The child who says of the lump of dissolving sugar "maybe it's a dice" is displaying not only a lack of familiarity with insoluble objects and with the English language, but is also projecting some of his street-corner culture into the lesson. With the deductive approach, all three of these aspects probably would have been ignored, but knowing them, the teacher can fill in the gaps in background, she takes less for granted, her feedback has been immediate.

1. See Science Curriculum Improvement Study Newsletter, January, 1964, p. 3.

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Perhaps more important is the fact that the inductive approach has more contact value for the disadvantaged child. Reissman notes that the mental style of this child is more problem-centered rather than abstract-centered, more physical and visual than aural, more game and action-centered rather than test-centered. How many of these characteristics would be taken into account, for example, by the deductive handling of a lesson in which a teacher defines art, lectures, reads a poem as an example of art, and then tests the class on his lecturing? Very few, you would answer.

On the other hand, if the child is challenged by a puzzle--by the reading of several poems, the questions: "Is this art? Why?," and the listing of his criteria for art, based on the poems and later compared to a list prepared by experts--his creativity and active participation are stimulated. In this case, the child is not acted upon by the educational process, instead he reacts with it.

This less passive role of the learner is nowhere more evident than in, ironically, the more non-verbal, rather than verbal, examples of the inductive approach. Take, for example, a role playing situation in which chairs are arranged in the classroom to resemble the seats and aisle of a bus. By large and small movements, by facial expressions, and by occasional verbal comments, a group of deprived children might dramatically present their impressions of the feelings of a Southern Negro who is asked to move to the rear of a bus. This single role playing situation might be developed into a study of the civil rights issue and from there branch into a study of government, philosophy, psychology, communications. The Negro in the arts---ad infinitum. But more important than this, it would have first afforded the children an occasion to display their own expressive styles in an effort to foster ego development. What better contact device could be considered than to draw abstract generalizations from a child's specific frame of reference from his action, and from his individual mode of expression!

Other examples may be given of the inductive approach, which caters to what Reissman calls the slow, careful, and patient learning style of the disadvantaged child. In all of these, it should be noted that the inductive approach takes longer, allowing more time for discovery and analysis. The class that has had maps passed out with geological features on them and is asked to place towns where they "ought to be situated" will respond with enthusiasm when it discovers that a major city actually is built on the spot the class had selected. Or, after slow, careful analysis, the class may respond with rationales such as: "Just because Chicago isn't where it should be." In short, the members of this class could become slightly shakenup transportation and geological theorists as a result of their painstaking observations, analysis, and modification of conclusions.[2]

A final example of the possibilities in inductive teaching for creativity with these children (and they are creative, for what could be more imaginative than their own slang?) And for putting their knowledge into action involves the "desert Island technique." This is a very handy technique, for in a fasion only vaguely reminiscent of Lord of the Flies, it can be used to study the very basic or very ultimate problems of the humanities. In the instance we are thinking of, a classroom of belligerent, aggressive, lower socio-economic children, who viewed government as an obstacle and threat rather an an agent to facilitate their lives, was told: "Imagine yourself on a desert island with all the clothes, food, shelter, etc. you need. Th ere is only one rule: That you cannot have any rules. What do you think will happen?"

At first the reaction was "great!" But as several minutes elapsed, difficulties began. Someone wanted to move his house closer to the water, but it was too

2. See Gerome Bruner, Process of Education

close to another's house; someone else wasstealing from another. The conclusion was reached that they could not live without rules. They were then instructed: "Pick up the island and move the whole thing into a village in the United States. If you need rules, set them up." The children began to appoint officials and set up some kind of village government. They actually wrote to surrounding towns to see what types of governments had been set up within them and compared these findings with those of their own hypothetical "island village."

What was done here? Very little in the way of teacher lecturing, but very much in the way of concrete practical understanding leading to theory and creativity. How lifeless and different it would have been had the teacher stated first: "We need rules, that is one of the reasons we must study government." The ultimate objective, too, was accomplished: The need for rules for their own good (which in itself reflects this type of child's typical thought, "what's in it for me?") and the realization that government can be a helpful servant were now made believable.

Throughout all of this, you may have seen drawbacks to the inductive approach--it presents the danger of being directionless; it is difficult to structure and anticipate responses, so as not to be sidetracked; it gives the teacher less security for if she must always ask the right question, it takes twice as long to develop.

There are times when an inductive approach should probably never be used with the disadvantaged---for example, when the class presents an extreme discipline problem which would make the liberalness of the approach backfire. In short, the inductive approach's strengths are its very weaknesses, too.

On the other hand, in spite of the weaknesses of the deductive approach---e.g., a tendency to produce passive conformity, to spoon-feed facts that are not really internalized, to stifle discovery---we cannot slough off the deductive, for it can be a very dramatic presentation.

Actually, what is at stake here is that the urban schools are asked to produce self-directing, thinking people. Certain truths that have already been attained by man can certainly be imparted via a lecture; this is a carry-over from religious teachings and doctrines. Certain other truths must be unveiled, however, by personal discovery, this is an application of the scientific process. What we are saying is that to date, the inductive approach has been too long ignored and in view of its special relevance to the culturally deprived---it should not be ignored especially by urban teachers. Inductive can be a teaching strategy which attempts to guide the learners through an active process of thinking and learning, to the degree that each has internalized concrete specifics and generalized abstracts which tie knowledge together. Moreover, each has acquired a basic technique for investigation through the inductive approach. Above all, this makes learning exciting.

To conclude, we go back to our lump of sugar. Learning can be too unstructured, too much of a birdshot approach, with inductive. Yet, if we don't curb our temptation to give answers immediately to a child---e.g. saying immediately: "That is a lump of sugar"--- then, learning becomes too sugar-coated and too deductive. We suggest that the best technique combines both approaches in view of individual learning styles. But, unfortunately, the schools have a long way to go in utilising the inductive half of the combination.